

**PERSONAL
COMPUTER**

pineappleTM



pineapple[®]



RETURN

OPERATION MANUAL

A REFERENCE MANUAL FOR PINEAPPLE COMPUTER

PERSONAL COMPUTER

pineapple™

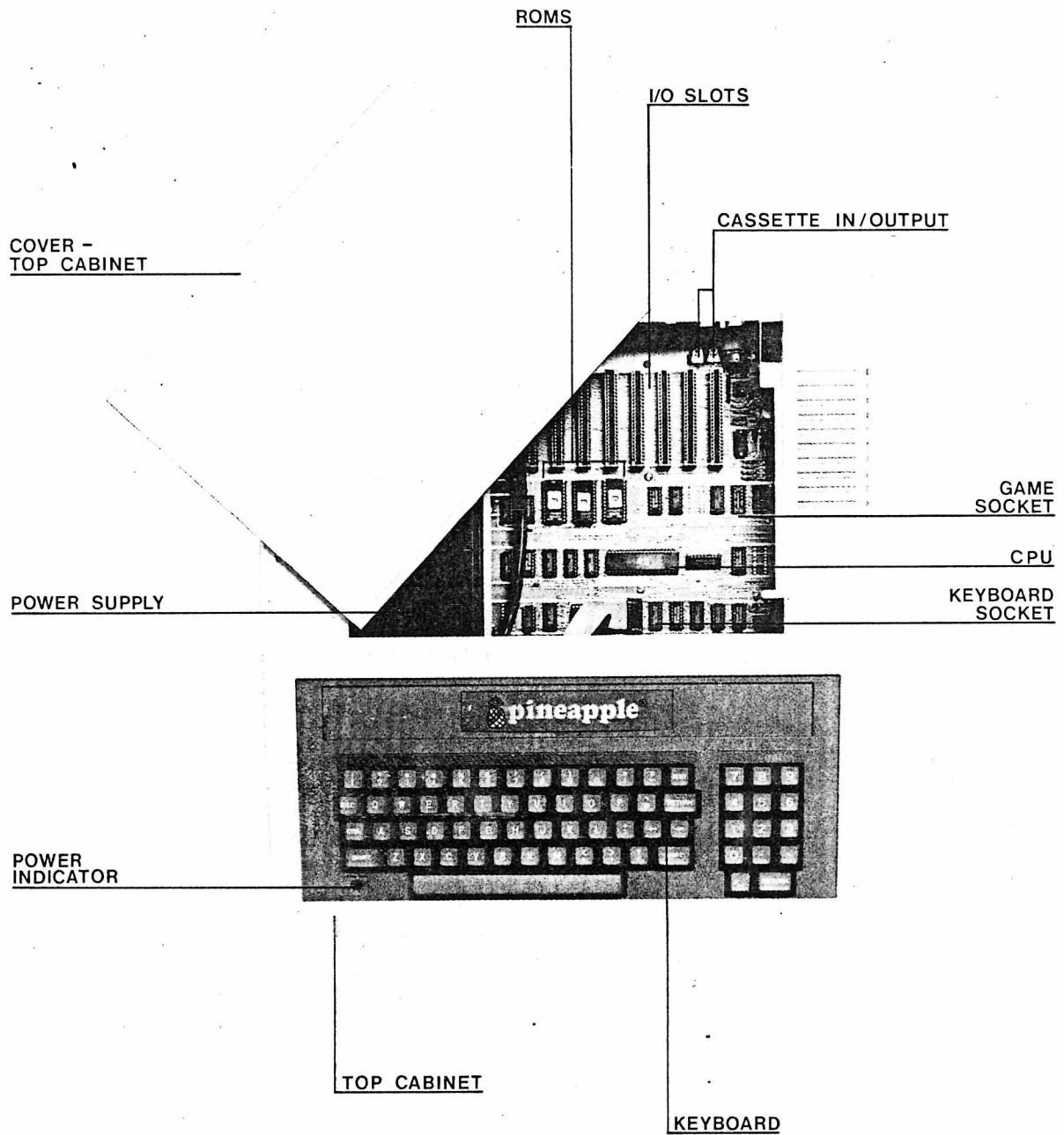
- 1 INTRODUCTION**
- 2 OUTLOOK**
- 3 OPERATION**
- 4 COMPONENT LAYOUT**
- 5 COMPONENT INSERTION GUIDE**
- 6 EXPLODED VIEW**
- 7 TROUBLE SHOOTING**

Welcome to join our Pineapple party. This book will show you how to operate your Pineapple II computer and will be a guide as your study to program it, you will find a lot of fun in the Pineapple. Actually, you will find many features and conveniences in the BASIC that make programming more interesting. If you are a new comer, be warned that programming though not difficult, can only be learnt by **DOING**. we will discuss this topic later.

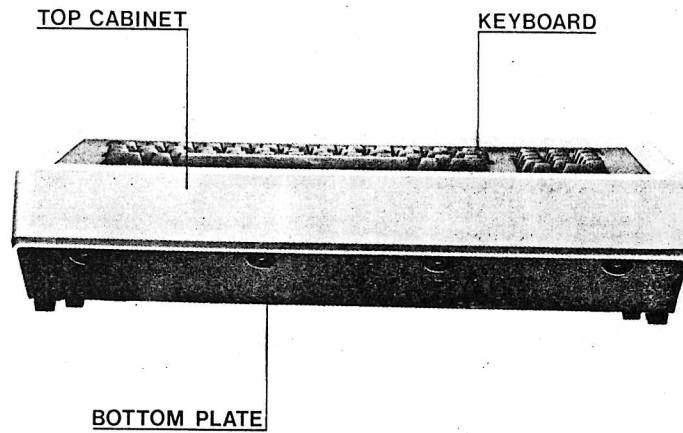
If you purchase your Pineapple from an authorized Pineapple dealer, the dealer will be willing to let you set your Pineapple up in the shop to make sure you know how to set it up at home. If you received it as a gift or through the mail, it is not difficult to hook technical knowledge is needed at all.

The Pineapple described in this manual has the **BASIC** computer language and the Autostart ROM installed on the main board.

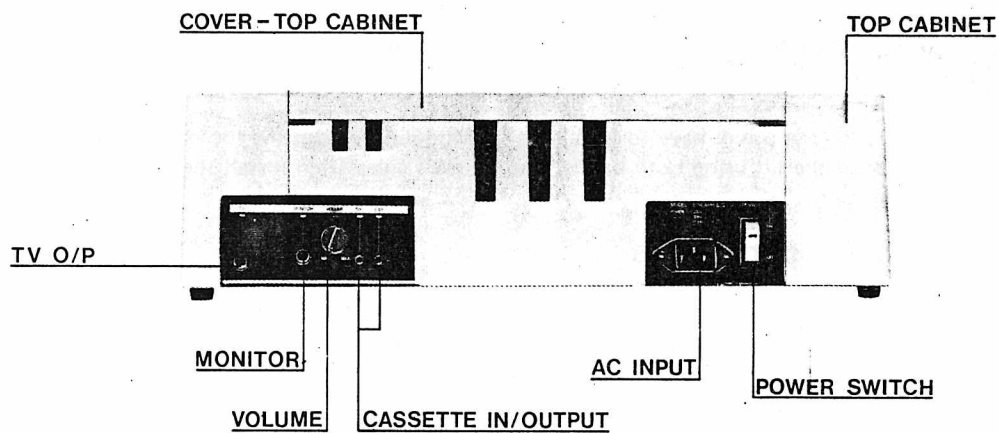
INTRODUCTION



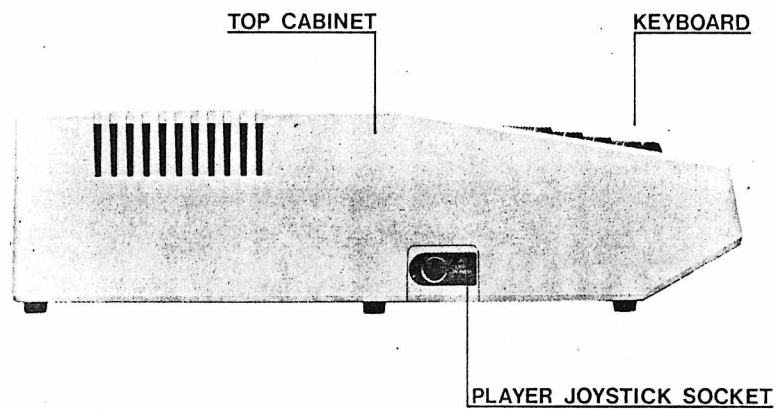
PLAN ELEVATION



FRONT ELEVATION



REAR ELEVATION



SIDE ELEVATION

WHAT YOU WILL NEED

This manual was in the accessory box. This box should also contain the power cord (the cord that plug into the outlet on the wall).

In addition to the Pineapple II itself and the contents of the accessory box, you will need two more items chosen from the options below (none of these items are supplied).

1. You will need one of the following items (it's useful to have both, but only one is necessary).
 - a. A cassette recorder and a cable to connect it to the Pineapple.OR
 - b. The DISK II disk drive with a controller card.
2. You will also need one of the following items:
 - a. A color TV monitor and a cable that has a phono plug (also called a male RCA-type connector) at one end and something to match the monitor at the other end. The dealer that sells you the monitor can supply the cable.OR
 - b. An ordinary home color TV and an "RF Modulator" with the connecting cables. The RF Modulator changes the signal output by the Pineapple so that it matches what your TV expects. A number of Modulators are available. The Modulator comes with instructions on how to hook it up. Your TV's ability to receive normal programs will not be diminished (or enhanced) by having the Pineapple hooked up to it. A black and white monitor or TV will work fine, but will not let you take advantage of Pineapple's ability to generate color pictures. Colors described in this manual will appear as different shades of grey on a black and white monitor or TV.

NOTE: The Pineapple II computer may only be connected to a standard TV receiver through an RF Modulator.

HOOKING UP THE TV

If you have a color (or black and white) monitor, just connect the appropriate cable from the jack marked **VIDEO OUT** (on the rear of the Pineapple) to the input of the monitor.

If you have an ordinary TV, you will have to install an RF Modulator. Open the top of the Pineapple by pulling straight up on the back of the lid using both hands, one on each side. Then install the modulator following the directions that come with it.

PLUGGING IN THE GAME CONTROLLERS

With the lid open, plug the controllers' rather delicate plug into the **GAME I/O** socket located in the right-rear corner (front view) of the Pineapple board. Be very careful and make sure that all the pins go into the socket. The plug's white dot should be toward the front (keyboard end) of the computer.

THE DISK II

If you have a disk drive, unpack it carefully. Then read the preface and the first chapter of the Disk Operating System (usually called DOS) manual that came in the Disk II package. Those pages will give you complete instructions on how to set up your disk drive.

THE CASSETTE RECORDER

(if you are not using a disk drive, or
if you are going to use both recorder and disk)

Use the supplied cable (the one with two plugs on each end) to connect the Pineapple to your cassette tape recorder. Connect one black plug to the **MIC** or **MICROPHONE** jack on the recorder, and the other black plug (on the opposite end of the cable) to the jack on the back of the computer marked **CASSETTE OUT**. Connect the grey plug on the recorder end of the cable to the recorder's **EAR** or **EARPHONE** or **MON** or **MONITOR** jack on the recorder (different brands use different words). Connect the grey plug on the computer end of the cable to the jack marked **CASSETTE IN**. "**OUT**" means "out of the computer" and "**IN**" means "into the computer." All that remains is to plug the cassette recorder's power cord into a wall outlet, and it will be ready to use.

Now close the top of the Pineapple. Plug the Pineapple end of the computer's power cord into the Pineapple (on the rear of the Pineapple, next to the power switch), and the other end into a three-prong grounded wall outlet. Now the Pineapple is completely set up, and you have only to read on to begin exploring the fascinating world of personal computing.

THE PINEAPPLE KEYBOARD

The first thing to do, now that all the connections have been made, is to turn the Pineapple on. The switch is on the back of the computer next to where the power cord plugs in. Push it into the upward position. You will be rewarded by the "**POWER**" light at the bottom of the keyboard coming on. The **POWER** light is not a key, and cannot be depressed. The title "**PINEAPPLE**" should also appear at the top of the screen along with a] and a blinking square called the "cursor" to the far left.

If your Pineapple doesn't seem to be responding correctly to your instructions (you'll find out what correct responses are as you become familiar with this manual), a press of the **RESET** key will usually remedy the problem. If that doesn't work, turning the Pineapple off and then turning it back on again will probably do the trick.

If you have a disk drive, turning your Pineapple on will give the following results. A few clacking noises will come from it, followed by a soft whirring sound, and a red light labelled "**IN USE**" will come on. The disk drive will whirl and whirl until it seems that it will never stop. As a matter of fact, it won't: until you stop it by pressing the **CTRL RESET** key. Do that now. The title "**PINEAPPLE**" disappears, and the prompt and cursor appear at the bottom left of the screen.

Study the keyboard. If you are familiar with standard typewriters, you will find a few differences between the Pineapple keyboard and a typewriter keyboard. First, there are no lower case letters. You can get only capital letters on the Pineapple and one set of numerical key on right side, it works like a calculator.

Using the diagram, locate the two **SHIFT** keys on the keyboard. The reason the keyboard has the **SHIFT** keys is to allow for nearly twice as many characters with the same number of keys. A keyboard with a separate key for each character would be very large, making it hard to find any desired key.

If you press a key which has two symbols on it, the lower symbol will appear on the screen. If you press the same key while holding down either of the **SHIFT** keys, the upper symbol will appear on the screen. You will find that the **SHIFTed** comma and the **SHIFTed** period are (and) respectively. You will also find other symbols on the Pineapple keyboard that are not on a standard Typewriter. Feel free to try operating any of these keys.

If there is no upper symbol on a key, then holding down the **SHIFT** while the key is pressed has no effect.

An important difference between using the Pineapple keyboard and most typewriters is that you cannot employ a lower case "**L**" for the number "**1**". Of course, there is no lower case "**L**" on the Pineapple, but some typists will have to break the habit of reaching for the letter "**L**" when they mean the number "**1**".

When the Hindu mathematicians invented the open circle for the numeral zero, they didn't use the Roman alphabet. So they chose a symbol that, while not conflicting with **THEIR** alphabet, looks just like our letter "**O**". The computer (and any straight-thinking individual) will want to keep zeros and oh's distinct. The usual method for doing this, on the Pineapple and many other computers, is to put a slash through the zero. Now you can tell them apart. The keyboard and the **TV** display both make the distinction clear. Try them.

After a bit of typing, the screen tends to get full of stuff. To clear the screen, you need to use the key marked **ESC** stands for the word "**ESCAPE**." The **ESC** key does not show up on the Pineapple's screen. Press **ESC**, and pressing the key marked "**P**". Notice that the **ESC** key, unlike the **SHIFT** key, does not need to be held down while typing another key. You have to operate three keys to clear the screen. First press **ESC** and release it. Then, while holding down **SHIFT**, press **P**. Instant gratification: the contents of the screen promptly disappear.

KEYBOARD NOTATION

At this point we will introduce a simple notation.

As you have seen, when a key is to be pressed, such as the key for the letter "P", that key's symbol will be shown: P. To indicate pressing several keys in succession, we will simply list the keys in the order to be pressed: **PINEAPPLE**

On occasion, you will need to hold down one key while pressing another key. For example, to type a dollar-sign (\$) you must hold down the **SHIFT** key while you press the 4 key. Whenever this dual action is required, we will show that symbols for both keys, one above the other.



The upper key is to be held down while the lower key is pressed. Here's how to clear the screen, using the new notation:



Try it.

CONTROL, AND OTHER UNSAVORY CHARACTERS

When you press the 3 key, the numeral 3 appears on the TV screen. You probably believe this is true, but try it anyway. If you hold the **SHIFT** key down while pressing the 3 key, a number sign (#) should appear on the screen. Does it? The **SHIFT** key permits some of the keys on the keyboard to have two different functions. Several of the keys also have a third function. The third function is obtained by holding the **CTRL** key down while other keys are pressed. "**CTRL**" stands for the word "**ConTRol**." Instead of putting new characters on the screen when you use the **CTRL** key, the computer responds by performing certain actions. Control characters never appear on the screen.

Hold the **CTRL** key down and press G



It doesn't go "ding", but it does go "beep." Whenever the computer wishes to call your attention to something, it will sound the beeper. **CTRL G** is called "**BELL**" for historical reasons: the present Keyboard design is based on that of the Teletype. On that venerable machine, **CTRL G** rings a real bell.

There is also a key marked **RETURN** on the keyboard. On machines in the past, this was the "carriage return" key. On the Pineapple, it causes the blinking cursor to "return" to the screen's left edge, but it is also a special message to the computer. More about this message later. If you happen to press **RETURN**, you will sometimes get a "beep" and the message

?SYNTAX ERROR

will appear on the screen. For the time being, ignore this message.

The only keys left unmentioned are the ← and → keys. They move the cursor to the left and the right. They will be explained more fully later. Test out these keys and any others you can find. There is nothing you can do by typing at the keyboard that can cause any damage to the computer. Unless you type with a hammer. So feel free to experiment. With you fingers.

SETTING THE TAPE RECORDER

(if you are not using a cassette recorder, skip to the section called "USING A DISK DRIVE".)

Now press the **RETURN** key. The right hand square bracket **)** and the blinking cursor that show on the screen's left edge let you know that you are "in Floating Point BASIC" or have Floating Point BASIC "up" (as they say). Now you are ready to set the volume control on the tape recorder.

When you play a tape recorder, it is usually with the intent of making sounds that you can hear. If it is too soft, you miss some of the words or music. If it is too loud, it is annoying.

When you play the tape recorder into the Pineapple, it is with the intent of putting the tape's information into the computer. If the volume setting is too soft, the Pineapple will miss some of the information, and it will complain by giving an error message. If the volume setting is too loud, the Pineapple will also complain.

To find the right volume setting, you will use a trial-and-error method. You will play an Floating Point BASIC tape softly to the computer and see if the information got in OK. If it doesn't work, you will try the tape again, a little louder this time. If that doesn't work, you will make it a little louder still. Eventually the volume will be just right for the Pineapple, and it will say so with a beep.

To clear the screen for action type



Place the tape marked **COLOR DEMOSOFT** into your recorder. For each position of the volume control you are going to do the following:

1. Rewinding the tape to the beginning.
2. Start the tape playing.
3. Type:

LOAD RETURN

When you do this, the cursor will disappear. It may take up to 15 seconds before something happens. There are these possibilities:

- a. The message **?SYNTAX ERROR** appears.
- b. Nothing at all happens.
- c. The message **ERR** or **ERRERR** appears (with or without a beep).
- d. The computer goes "beep" and nothing appears.

In case a, do not reset the volume control, but go back to step 1 where you rewind the tape.

In cases b and c, make sure you waited for 15 seconds before giving up. If there is no prompt character or cursor, and the Pineapple does not respond to its keyboard, press **RESET**, set the volume control a bit higher and go back to step 1. Once in a great while the **LOAD** command may not work properly, and the cursor will appear on the screen immediately without waiting for the tape to be **LOADed**. If this happens just turn your Pineapple off and then on again with the power switch on the rear of the computer, and then try **LOADing** the tape again.

In case d, you are on the right track. When you hear the beep, wait another fifteen seconds. Either you will get an error message (case c), or the prompt character (]) and the blinking cursor will reappear. If they do reappear, stop and rewind the tape. Mark the position of the recorder's volume control, so that you can use this setting each time you LOAD a tape in the future. Then type

RUN RETURN

The screen should look like this:

THE USUAL PROCEDURE FOR LOADING TAPES

(once the recorder's volume control has been set correctly)

1. Rewind the tape.
2. Start the tape playing.
3. Type **LOAD**

After you press **RETURN** the cursor will disappear. Nothing happens from 5 to 20 seconds, and then the Pineapple beeps. This means that the tape's information has started to go into the computer. After some more time (depending on how much information was on the tape, but usually less than a few minutes) the Pineapple beeps again and the prompt character and the cursor reappear.

4. Stop the tape recorder and rewind the tape. The information has been transferred, and you are finished with the tape recorder for the time being.
5. Type **RUN** and press **RETURN**, and your program will begin to execute.

If your Pineapple is in the Floating Point BASIC computer language, the tape you are **LOADing** must be in Floating Point BASIC too. Trying to **LOAD** a tape in the wrong computer language gives results that are pretty much unpredictable. Strange error messages and odd characters may appear on your TV screen, you may loose keyboard control, or any number of other odd things can happen. If this happens to you, turn your Pineapple off and then back on again to get everything back to normal.

Computerniks use many different words to describe the process of taking information from a tape and putting the information into the computer. The computer is said to "read" (pronounced "read") the tape, The information on the tape is said to be "entered" or "read" (pronounced "red") into the computer. The act of reading a tape is also called "loading" a tape into the computer and the information on the tape is said to be "loaded into" the computer. All these expressions are ways of saying the same thing.

A HELPFUL HINT

What is it that the computer finds so interesting about these tapes? Listen to one of them. It's not music to your ears. Yet you can recognize some of the sounds the computer listens for. The information starts with a steady tone. Then there is a short "blip" followed by more of the steady tone. The tone is at 1000 cycles per second. This pitch is just below the C two octaves above middle C. After the tone comes a burst of sound rather reminiscent of a rainstorm.

When you are used to the sound of a good tape, you can quickly check a tape by ear to see if it is a computer tape or not. If you can tell what the tape contains by listening to it, you are a mutant, and will go far in the computer world.

USING A DISK DRIVE

(Skip this section if you are not using a disk drive.)

A disk drive is much quicker and easier to use than a cassette recorder, however, diskettes and disk drives are delicate creatures, and some care must be taken to protect them. You will find information of their care and feeding on pages 5 through 6 in your DOS manual in the section called **CARE OF THE DISK II AND DISKETTES**. Read that section carefully if you haven't already.

The last section in the first chapter of the DOS manual is called **INSERTING AND REMOVING DISKETTES**. Get the System Master diskette from its package and insert it with the label facing up and the oval cutout toward the back of the disk drive, as described in the DOS manual.

One of the features that make the Disk II so easy to use is its ability to store and retrieve several different groups of information. The groups of information are filed on the disk under names called file names. A program that keeps track of addresses, for instance, might be called **ADDRESSES** on the diskette.

The programs that keep track of files, save and retrieve them, and do lots of other housekeeping tasks are what make up the **Disk Operating System of DOS**. The process of adding the DOS capabilities to Floating Point **BASIC** (or to any other language used by your Pineapple) is called "booting DOS" or "booting the system".

There are several ways to boot **DOS**. One way is to simply turn your Pineapple off and turn it on again. The Disk drive's red "**IN USE**" light will come on again, and the Disk II will make the same whirring and clacking noises it made when the Pineapple was turned on for the first time. This time the disk drive will stop whirring on its own. When the whirring stops and the red light goes off, the title Pineapple will disappear and a message will come on the screen.

When you get this message, you know that **DOS** is booted. The right-hand square bracket and the blinking cursor that appear at the bottom left corner of the screen indicate that the Pineapple is in the Floating Point **BASIC** language (or has Floating Point **BASIC** "up", as they say) and is ready for instructions.

Another way to boot **DOS** is to type

PR#6 RETURN

On your Pineapple. If the controller card is not plugged into slot number six then type

PR#6 RETURN

followed by the number of whatever slot the card is plugged into and then **RETURN**.

The System Master is a very special diskette. It contains programs you'll need in order to get the most out of this manual as well as many other useful programs. To see what programs are on the diskette, use the **CATALOG** command. Simply type

CATALOG RETURN

and a list of filenames will appear on the screen.

The first program you need is called **COLOR DEMOSOFT**. Locate the name **COLOR DEMOSOFT** in the catalog. Now type

RUN COLOR DEMOSOFT

and then press **RETURN**. The screen should look like the photograph on the next page.

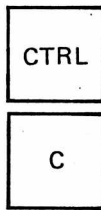
THE MENU

Computerniks call this list of numbered descriptions a "menu."

It works like a menu at a roadside cafe. If you want scrambled eggs with hash brown potatoes, toast, jelly and coffee you can just say, "I'll have a number 5." Try selecting one of the color demonstrations by typing its number (followed by a **RETURN**, of course). When you are viewing one of the demos, just press the **RETURN** to get back to the "menu."

STOPPING THE COMPUTER

To stop the computer, use



This will cause the prompt character and blinking cursor to appear. The prompt character tells you that it is OK to proceed with typing information to the computer. That is why it is called the prompt character: it "prompts" you to type something.

Once the computer is stopped, it may be started again by typing **RUN**

(and, of course, **RETURN**, but you hardly need to be told that anymore. In fact, you won't be from now on.)

Use



to stop the computer, and

RUN

to start it again. Try this a few times.

SETTING THE TV COLOR

If the "menu" is not on your screen, but DOS and RUN the program called **COLOR DEMOSOFT** if you are using a disk drive. Or, if you are using a cassette recorder, follow the Usual Procedure for loading the tape marked "**COLOR DEMOSOFT**". One of the items on the menu is called **STANDARD COLOR NAMES**. We will use this **DEMO** to set the TV color. Type the number of the **COLOR NAMES DEMO**, 1, and press **RETURN**. A number of bars of light (perhaps in color) will appear. Under each bar is a four letter abbreviation of a color name. The full names are:

- 0 BLACK
- 1 MAGENTA (a slightly bluish red)
- 2 DARK BLUE
- 3 PURPLE (a light purple, lavender)
- 4 DARK GREEN
- 5 GREY
- 6 MEDIUM BLUE
- 7 LIGHT BLUE
- 8 BROWN
- 9 ORANGE
- 10 GREY
- 11 PINK
- 12 GREEN
- 13 YELLOW
- 14 AQUA
- 15 WHITE

If you have a black-and-white television or monitor, adjust the brightness and contrast until you are pleased. Of course, if the picture is flipping over, stop it the way you would for any TV show. If you have a color set, a bit more work is necessary.

These colors will be different in Europe and some other parts of the world.

Remember that this color business is quite subjective, and that you can do whatever you want with the color. The following instructions will give the picture that we like, using the standard colors. But it's your eyes you must please. Besides, the optimum setting will vary with different amounts of room light.

Turn off any Automatic Color switch. On some sets it is marked "**AUTO COLOR**" or simply "**AUTO**". Turn the **TV** set volume control all the way down (but don't turn the set off). Four controls are now important: Picture, Brightness, Color and Hue. Some sets have a knob marked "**Contrast**" rather than "**Picture**," but it does the same thing. Turn the Picture control to its dimmest position, and then turn down the Brightness until the background just goes completely dark. Turn the Color control to the middle of its range. Now turn up the Picture control to make things brighter. Do not make it so bright that the colors "spill" off the edges of the bars too much.

Now adjust the Color knob. At one extreme, all color is lost and the picture is black and white. This setting is handy when you are just showing text on the screen. Adjust the Color control until the colors are intense but not "blooming" or spilling into one another. Lastly, adjust the Hue knob until all the colors agree with their names. Purple, Pink and Yellow are especially sensitive indicators. Also, make sure that the three Blues are distinct.

When the **TV** set's colors are **OK**, press the **RETURN** key and the menu will reappear. Now try **DEMO 2**, which shows the color bars with their code numbers. Also try the other demonstrations. You'll never believe how talented your TV is until you replace the local stations with your Pineapple.

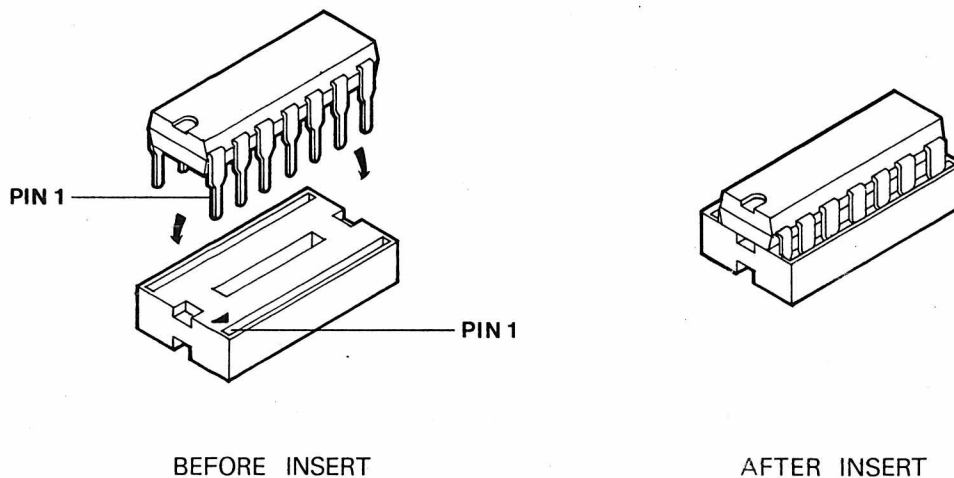


This chapter is written to the KIT buyer. If you are the ASSEMBLE buyer, skip this chapter. If you are the KIT buyer, **READ THIS CHAPTER CAREFULLY.**

It is very important for you if you want to insert any IC chips to the sockets, make sure you get the chips to the right positions. All the part numbers are printed on the board, **READ IT CAREFULLY.**

You will see a little mark on the socket (as figure). It tells you where the position of the pin 1 is. Counting anti-clockwise here from pin 1 to 14 or 1 to 16 etc.

Referring to the IC chips, you will see a segment in only one side, the part number is printed on the surface of the IC chip. This segment is the mark to show you the pin 1 on the IC position (as figure), counting anti-clockwise here from pin 1 to 14 or 1 to 16 etc.



Reviewing to your Pineapple, you will see all the IC sockets had been arranged on the board at a same unit. All the pin 1 had been arranged on the bottom of the left hand side, except IC#74 LS 245 (four sockets). These four sockets had been arranged on a special position. The pin 1 are located on the bottom of the right hand side, **CHECK IT CAREFULLY.**

By the way, you will see three ROM sockets located on the G ROM, they are IC ROM-D, ROM-E and ROM-F, make sure the mark of the sockets with the ROM IC. **READ THE LABEL CAREFULLY**, due to the ROM-D, E, F and the CHR. GEN (located on E-4) are **never** interchanged.

If you are willing to insert the IC chips to the sockets, be careful to put the pins into the socket and let all the pins have fine contact. After finished each one, check it **again** carefully. Join it one by one carefully, you should have the good award later. If you invert the IC pins with the sockets, the IC will be burnt immediately.

Make sure to **turn-off** the Pineapple before you want to insert or separate the IC chips any time. That would avoid damaging your Pineapple.

COMPONENT INSERTION GUIDE

PART LIST

1. Cover — Top Cabinet
2. Adhesive Tape (Top Cabinet & Cover)
3. Adhesive Tape (Top Cabinet & Cover)
4. Cabinet — Top
5. Plate — Name
6. Plate — DIN
7. M 2.6 x 0.45P x 10 KH
8. Cover — DIN
9. DIN Socket
10. Nut M2.6
11. Cover — Keyboard
12. M 3 x 12 BH
13. Speaker Angle
14. ϕ 3 x 8 BTB
15. Plate — Control Key
16. M 3 x 6 BH
17. Keyboard Connector
18. Keyboard Connector
19. Power Supply Case
20. Power Supply Plug
21. Warning Label
22. Avoid Label
23. Plate — Jack
24. Knob — Volume
25. Nut M 7
26. Holder — Jack Plate
27. M 3 x 8 BH
28. M 3 x 5 BH
29. Main P.C.B.
30. Modulator Inlet
31. Modulator
32. Bracket — Modulator
33. Speaker Angle
34. Speaker Collar
35. Speaker
36. Speaker Ring
37. Plate Bottom
38. Cushion — Stand
39. M 3 x 10 BH
40. Nut M 3
41. M 3 x 14 BH
42. M 3 x 6 BH
43. Nut M 3
44. Fibre Washer ϕ 3 x ϕ 8 x 0.8mm thick
45. Stud — P.C.B. Mtg.
46. M 3 x 5 BH
47. M 3 x 14 BH
48. M 3 x 14 BH

**EXPLODED
VIEW**

Here are some informations for you if your Pineapple have any problems. Be sure to turn off the Pineapple when you change any parts. It should be avoided to damage the computer. If any questions, please contact the Pineapple service centre, they will be willing to help you anyway.

SYMPTON

ACTIONS

No Screen

CHECK: Power, D10, E9, Q5

Wrong Display

CHECK: D10, E9, E10

Split Screen

CHECK: C11, C12, C13, C14

Wrong Charactor

Show On Screen

CHECK: E3, E4, (CHARACTER GEN.)

Can't Syntax

CHECK: Jumper Pad A13, B11, B12, B13, B14

Color Mod.

CHECK: A1

Can't Display

CHECK: D12, D13, G8, G9

No Cassette Out

CHECK: G8, H12

Can't Read Cassette

CHECK: G8, G12, J12

Some Slot, No Function

CHECK: F2, F12

No Master Reset

CHECK: E12, E13, Q5

No Cursor

CHECK: D3, D11, D13

TROUBLE SHOOTING

PINEAPPLE
PERSONAL COMPUTER

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Show On Screen

CHECK: E3, E4, (CHARACTER GEN.)

Can't Syntax

CHECK: Jumper Pad A13, B11, B12, B13, B14

Color Mod.

CHECK: A1

Can't Display

CHECK: D12, D13, G8, G9

No Cassette Out

CHECK: G8, H12

Can't Read Cassette

CHECK: G8, G12, J12

Some Slot, No Function

CHECK: F2, F12

No Master Reset

CHECK: E12, E13, Q5

No Cursor

CHECK: D3, D11, D13

PINEAPPLE
PERSONAL COMPUTER

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